IN THE CLAIMS

Please cancel claim 52 without prejudice on the merits to further prosecution of these claims in one or more continuing applications. Claims 3, 5-7, 16-17, 35-38, 43, 59-60, and 66 remain unchanged. Please amend the remaining claims as follows:

1. (CURRENTLY AMENDED) A targeting device for detecting a ~~precise~~ location and position within a hollow object having an opening, the device comprising~~:~~
   a. a magnet adapted to be positioned within the opening of the ~~tube~~ object, the magnet ~~for~~ providing a directional field ~~, wherein the magnet includes~~ and having a three-dimensional orientation on an x-axis, a y-axis and a z-axis; and
   b. a target~~ device~~, including a ~~sensing means~~ sensor for sensing ~~identifying the magnet location along~~ the three-dimensional orientation of the magnet; and a display ~~means~~ for displaying ~~wherein the display means represents the orientation of~~ the three-dimensional orientation of the magnet~~ sensing means~~.

2. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the magnet generates ~~includes the following characteristics a.~~ a magnetic field of sufficient strength to be sensed by ~~match~~ the ~~sensing means~~ sensor of the target ~~device, and b. a magnetic field of sufficient shape to provide the desired feedback necessary to discriminate targeting in all required planes~~.

3. (ORIGINAL) The targeting device of claim 2 wherein the magnetic field is non-uniform.

4. (CURRENTLY AMENDED) The targeting device of claim 3 wherein the magnetic field is non-circular, thereby allowing the ~~sensing means~~ sensor to distinguish rotation about the

z-axis, **and recognize** ~~while~~ **magnetic** ~~peak~~ flux lines perpendicular from the magnet **which** indicate **the position** ~~its exact~~ ~~center~~ **of the magnet**.

5. (ORIGINAL) The targeting device of claim 1 wherein the magnet is cylindrical in shape.

6. (ORIGINAL) The targeting device of claim 1 wherein the magnet has a diameter less than about 4mm.

7. (ORIGINAL) The targeting device of claim 1 wherein the magnet is a Neodymium Iron Boron (NdFeB) magnet that is polarized perpendicular to its long axis.

8. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the ~~sensing means~~ sensor comprises at least one sensor for detecting the magnetic flux lines of the magnet.

9. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the ~~sensing means~~ sensor comprises an array of sensors for detecting the magnetic flux lines of the magnet.

10. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the sensor ~~sensing means~~ **includes** a ~~readily~~ readable display.

11. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the ~~sensing means~~ sensor comprises ~~eight sensors in an elliptical array forming four pairs~~ **an elliptical array of four pairs of sensors**.

12. (CURRENTLY AMENDED) The targeting device of claim 11 wherein the sensors sense ~~are arrayed in an elliptical pattern with the elements comprising four pairs opposing member elements, wherein the difference in~~ different outputs between ~~pair~~ the sensors

~~members~~ ~~is~~ relative to ~~the~~ **different** spatial positions ~~difference~~ of each **sensor** ~~pair member~~ from the ~~target~~ magnet.

13. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the target ~~device~~ comprises a readable display **for displaying the sensors** ~~by which the location of the array~~, in relation to the ~~target~~ magnet~~, is displayed~~.

14. (CURRENTLY AMENDED) The targeting device of claim 13 wherein the **readable display comprises at least two Light Emitting Diodes (LEDs), each LED being activated and/or inactivated as the sensors align with the magnet**. ~~target device comprises a readable LED display wherein the readable LED display includes means to generate variable brightness such that the light deceases as the target sensor moves toward correct alignment.~~

15. (CURRENTLY AMENDED) The targeting device of claim 1 wherein the hollow object is an intramedullary nail for ~~the~~ internal fixation of long bones, wherein the intramedullary nail has a longitudinal opening and screw openings.

16. (ORIGINAL) The targeting device of claim 15 wherein the screw openings are transverse interlocking screw openings.

17. (ORIGINAL) The targeting device of claim 15 wherein the screw openings are oblique interlocking screw openings.

18. (CURRENTLY AMENDED) The targeting device of claim 15 further comprising at least one drill sleeve for receiving and aligning a drill bit on ~~a~~ **an** interlocking transverse screw opening.

19. (CURRENTLY AMENDED) A method for detecting a precise location and position within a hollow object having an opening~~ and an external surface~~, **the method** comprising:

a. inserting and positioning a magnet ~~having a three-dimensional orientation~~ in the opening of the object at a discrete position in the object, wherein the magnet has a three-dimensional orientation on an x-axis, a y-axis and a z-axis;

b. providing a target**ing** device ~~external to~~ **on** the discrete position **of the magnet**, ~~wherein~~ the target**ing** device **comprising** ~~comprises~~ **a** ~~sensing means~~ **sensor** for **locating** ~~identifying~~ **the three-dimensional orientation of the** magnet ~~location and position~~ ~~along the three-dimensional orientation of the magnet~~; and a display ~~means~~ **for displaying** the ~~location indicating the position of the~~ ~~sensing means~~ **sensor** in relation to the magnet; and

c. moving the target**ing** device along the ~~external surface of the~~ object ~~location~~ until the **sensor** senses the three-dimensional orientation of the magnet.

20. (CURRENTLY AMENDED) The method of claim 19, **comprising aligning** ~~wherein the target device comprises~~ at least one drill **sleeve of the targeting device at a discrete position on the external surface of the object**, **the drill sleeve** having an axis **for alignment** ~~for positioning at the concealed location wherein the at least one drill sleeve is positioned at the concealed location~~.

21. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19**, wherein the**

magnet provides a non-uniform magnetic field ~~wherein the magnetic field is nonuniform~~.

22. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19**, wherein the magnet provides a non-circular magnetic field, thereby** allowing the **sensor** ~~sensing means~~ to distinguish rotation about the z-axis, **and recognize** ~~while~~ **magnetic** ~~peak~~ flux lines perpendicular from the magnet **which** indicate **the position** ~~its exact~~ ~~center~~ **of the magnet**.

23. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19 wherein the magnet is cylindrical in shape.

24. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19 wherein the magnet has a diameter less than about 4mm.

25. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19 wherein the magnet is a Neodymium Iron Boron (NdFeB) magnet that is polarized perpendicular to its long axis.

26. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19 wherein the **sensor** ~~sensing means~~ **detects the magnetic flux lines of the magnet, the sensor comprising at least one sensor** ~~for detecting the magnetic flux lines of the magnet~~.

27. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19 wherein the **sensor** ~~sensing means~~ **detects the magnetic flux lines of the magnet, the sensor comprising an array of sensors** ~~comprises an array of sensors for detecting the magnetic flux lines of the magnet~~.

28. (CURRENTLY AMENDED) The ~~targeting device~~ method of claim 19 wherein the ~~sensor sensing means~~ **magnetic flux lines of the magnet are displayed on a readable display** ~~comprise a readily readable display~~.

29. (CURRENTLY AMENDED) ~~A targeting device~~ **The method of claim 19** wherein the ~~sensing means~~ sensor comprises eight sensors in an elliptical array forming four pairs.

30. (CURRENTLY AMENDED) The ~~targeting device~~ method of claim 29 wherein the sensors sense ~~are arrayed in an elliptical pattern with the elements comprising four pairs opposing member elements, wherein the difference in~~ different outputs between ~~pair~~ **the sensors** ~~members is~~ relative to ~~the~~ **different** spatial positions ~~difference~~ of each sensor ~~pair member~~ from the ~~target~~ magnet.

31. (CURRENTLY AMENDED) The ~~targeting device~~ method of claim 19 **wherein the relation of the sensor to the magnet is displayed on a readable display** ~~wherein the target device comprises a readable display position of the sensing means by which the location of the array, in relation to the target magnet, is displayed~~.

32. (CURRENTLY AMENDED) The ~~targeting device~~ method of claim 31 wherein the ~~target device comprises a~~ readable ~~LED~~ display **comprises at least two LEDs, each LED being activated and/or inactivated as the sensors align with the magnet**. ~~wherein the readable LED display includes means to generate variable brightness such that the light deceases as the target sensor moves toward correct alignment.~~

33. (CURRENTLY AMENDED) The ~~targeting device~~ **method** of claim 19 **for internal fixation of long bones, wherein the hollow object is an intramedullary nail, the intramedullary nail having a longitudinal opening and screw** ~~wherein the hollow object~~

~~is an intramedullary nail for the internal fixation of long bones, wherein the intramedullary nail has a longitudinal opening and screw~~ openings.

34. (CURRENTLY AMENDED) A targeting device for percutaneously detecting ~~the location and position of~~ screw openings within an intramedullary nail for ~~the~~ internal fixation of long bones, wherein the intramedullary nail has a longitudinal opening and screw openings, **the targeting device** comprising:

a. a magnet adapted to be positioned within the longitudinal opening of the intramedullary nail, ~~for~~ **the magnet** providing a directional field~~, wherein the magnet includes~~ **and having** a three-dimensional orientation on an x-axis, a y-axis and a z-axis; and

b. a target ~~device,~~ ~~including~~ **comprising a sensor** ~~sensing means~~ for ~~locating~~ **sensing** the three-dimensional orientation of the magnet, **the sensor comprising an elliptical array of four pairs of sensors,** ~~identifying the magnet location along the three-dimensional orientation of the magnet~~ and a display ~~means~~ **for displaying** ~~, wherein the display means represents~~ the orientation of the sensing means.

35. (ORIGINAL) The targeting device of claim 34 wherein the screw openings are transverse interlocking screw openings.

36. (ORIGINAL) The targeting device of claim 34 wherein the screw openings are oblique interlocking screw openings.

37. (ORIGINAL) The targeting device of claim 34 further comprising at least one drill sleeve

for receiving and aligning a drill bit on a interlocking transverse screw opening.

38. (ORIGINAL) The targeting device of claim 34 wherein the intramedullary nail comprises a first and a second transverse screw opening.

39. (CURRENTLY AMENDED) The targeting device of claim ~~37~~ 34 further comprising two drill sleeves for receiving and aligning a drill bit on each of the first and second transverse screw opening.

40. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the magnet is fixedly positioned within the ~~cavity of the~~ intramedullary nail at a discrete position adjacent to the transverse interlocking screw opening.

41. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the magnet is positioned ~~at the end of~~ on an insertion rod for positioning within the ~~cavity of the~~ intramedullary nail to a discrete position proximal to the transverse interlocking screw opening.

42. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the magnet generates ~~includes the following characteristics: a)~~ a flux field sufficient to be sensed by ~~match~~ the sensor ~~sensing means~~ of the target device~~, and b) a flux field sufficient to provide the desired feedback necessary to discriminate targeting in all required planes~~.

43. (ORIGINAL) The targeting device of claim 34 wherein the magnetic field is non-uniform.

44. (CURRENTLY AMENDED) The targeting device of claim 43 wherein the magnetic field is ~~distinguishable to~~ sensed by the ~~sensing means~~ sensor at a distance of about 10 cm.

45. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the magnet is cylindrical in shape, with a diameter of ~~LEDs~~ less than about 4mm.

46. (ORIGINAL) The targeting device of claim 34 wherein the magnet is a cylindrical Neodymium Iron Boron (NdFeB) magnet that is polarized perpendicular to its long axis.

47. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the ~~sensing means~~ **sensor** comprises at least one sensor for detecting the **magnet's** magnetic flux lines ~~of the magnet~~.

48. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the ~~sensing means~~ **sensor** comprises at least one pair of sensors.

49. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the ~~sensing means~~ **sensor** comprises a ~~readily~~ readable display.

50. (CURRENTLY AMENDED) The targeting device of claim 37 comprising a handle holding the **sensor** ~~sensing means~~ and ~~a~~ **the** drill sleeve.

51. (CURRENTLY AMENDED) The targeting device of claim 39 comprising a handle holding the ~~sensing means~~ **sensor** and the drill sleeves.

52. (CANCELED).

53. (CURRENTLY AMENDED) The targeting device of claim ~~52~~ **34** wherein the sensors **sense different outputs between the sensors relative to different spatial positions of each sensor from the magnet** ~~are arrayed in an elliptical pattern with the elements~~

~~comprising four pairs opposing member elements, wherein the difference in output between pair members is relative to the spatial difference of each pair member from the target magnet~~.

54. (CURRENTLY AMENDED) The targeting device of claim 34 wherein the target ~~device~~ comprises a readable LED display **for displaying the sensors in relation to the magnet** ~~by which the location of the array, in relation to the target magnet, is displayed~~.

55. (CURRENTLY AMENDED) The targeting device of claim ~~34~~ **54** wherein the readable LED display **comprises several LEDs, each LED being activated and/or inactivated as the sensors align with the magnet**. ~~includes a means to generate variable brightness such that the light deceases as the target sensor moves toward correct alignment.~~

56. (CURRENTLY AMENDED) A method for detecting ~~the location and position of~~ interlocking transverse screw openings within an intramedullary nail ~~for the internal fixation of long bones~~, wherein the intramedullary nail includes a longitudinal opening and interlocking screw openings, **the method** comprising:

    a. inserting and positioning a magnet having a three-dimensional orientation in the opening of the intramedullary nail to a discrete position proximal to the ~~transverse~~ interlocking screw opening;

    b. providing a targeting device ~~external~~ removed from ~~to~~ the **intramedullary nail** ~~discrete position~~, wherein the targeting device comprises a ~~sensing means~~ sensor **for sensing** ~~identifying~~ **the three-dimensional orientation of the** magnet ~~location~~ ~~along the three-dimensional orientation of the magnet~~ and a display ~~means~~ **for displaying** ~~indicating~~ ~~the position of~~ the sensing means in relation to the magnet; and

c. moving the target**ing** device along the intramedullary nail ~~external surface location~~ until the ~~sensing means~~ sensor senses the three-dimensional orientation of the magnet.

57. (CURRENTLY AMENDED) The method of claim 56 **comprising aligning** at least one drill sleeve **of** ~~wherein~~ the target**ing** device **at a position on the intramedullary nail, the** ~~comprises at least one~~ drill sleeve having an axis for alignment ~~at positioning at the concealed location wherein the at least one drill sleeve is positioned at the concealed location~~.

58. (CURRENTLY AMENDED) The method of claim 56 comprising aligning the ~~sensing means~~ sensor with the magnet and screw openings while simultaneously and in real time monitoring the position of the drill sleeve in relation to the ~~transverse~~ interlocking screw opening.

59. (ORIGINAL) The method of claim 57 comprising advancing a drill bit through at least one drill sleeve while maintaining alignment in real time.

60. (ORIGINAL) The method of claim 56 comprising attaching the magnet to an insertion rod.

61. (CURRENTLY AMENDED) The method of claim 60 comprising inserting the insertion rod into the opening of the intramedullary nail in a specified orientation to a locking point at the most distal ~~transverse~~ interlocking screw opening.

62. (CURRENTLY AMENDED) The method of claim 56 comprising placing the magnet in the

intramedullary nail at a point proximal to the ~~targeted transverse~~ interlocking screw opening.

63. (CURRENTLY AMENDED) The method of claim 56 comprising fixing the **position** ~~depth~~ of the magnet with a locking pin.

64. (CURRENTLY AMENDED) The method of claim 56 comprising applying the target**ing** device percutaneously to the approximate region of the interlocking screw opening.

65. (CURRENTLY AMENDED) The method of claim 56 comprising detecting magnetic flux lines of the magnet to identify the **position of the** magnet ~~location~~.

66. (ORIGINAL) The method of claim 56 wherein the interlocking screw opening is a transverse interlocking screw opening.